

Remarks

Reconsideration of the application is requested in view of the amendments and comments which follow.

Turning first to the claim objections, claim 25 has been cancelled, and claim 15 has been reformatted with appropriate line indentations.

With respect to the rejection of claims 17 and 18 under 35 U.S.C. §112, those claims have been corrected in a manner which, it is believed, makes the terminology quite clear and accurate. Reconsideration of the rejection is therefore requested.

In the remainder of the Office Action, the Examiner has rejected the claims under 35 U.S.C. §103(a) on the basis of obviousness, citing Cook US 6,759,000 as the primary reference in view of Wolf US 4,674,251 and Baltzer US 6,672,460, with Helmy US 6,006,923 cited as a secondary reference against claims 17 and 18. Claims 25 and 26 have been cancelled, mooted any issues regarding those claims. Reconsideration is requested.

In the present invention as defined in claim 15, it is specified that the edge regions of the frame are reinforced internally by metal box-section members joined at their four corners and that the ends of two spaced apart layers of orthogonal intersecting spaced apart wires are secured to the box-section members. As explained in the specification, by securing the ends of the wires to the box-section members, the rigidity of the frame is greatly improved and whipping of the frame where it is unsupported is avoided.

The invention presents a real improvement over US 6,759,000 to Cook and it is submitted that it would not have been obvious to someone of ordinary skill in the art to combine the teaching of Cook with any of the other prior art cited by the examiner to arrive at the present invention.

The arrangement disclosed in US 4,674,251 to Wolff is a frame that has a outer plastic moulding, reinforced with an insertable plastics pre-moulding 9 and which has three reinforcing rods 12 which are merely fitted into the pre-moulding to provide further reinforcement. The outer plastic frame is made from a more hard-wearing resistant plastic which is difficult to injection mould, and also more expensive. By using the softer, i.e. less rigid, pre-moulded insert 9, which is easier to injection moulding, costs can be reduced and moulding of the insert is easier due to the flow characteristics of the softer plastic. Using the softer plastic and the disadvantages

this causes in loss of rigidity is offset by having transverse rods 12 which are merely pushed into the openings of the insert 9. The reinforcing rods 12 are not connected to each other but merely held within the plastics pre-moulding 9. In addition, downwardly directed fastening projections 7 are incorporated into the frame, these designed to protrude through holes in a carrier holding the frame and then pressed apart by means of spreading pins on their underside, so as to form an additional point of connection of the screen frame to the carrier.

If one of ordinary skill in the art looked to combine the teachings of Cook and Wolff to improve the invention disclosed in Cook, then they might choose to modify the frame surround of Cook so as to include a hollow region into which a cheaper plastic pre-moulded insert could be introduced and introduce a metal bar equivalent to bar 12 of Wolff running along two parallel screen edges to offset the use of the cheaper more pliable plastics used for the pre-moulding. They might also include projections equivalent to 7 so as to secure the screen to the underlying carrier. Thus if someone of ordinary skill in the art were to modify Cook using the teaching of Wolff, they would modify the frame of Cook to use a cheaper plastics as an internal support, so as to reduce costs, and have parallel unconnected metal bars to offset the loss of rigidity from using the cheaper plastics material and downwardly extending protrusions to provide points of connection between the screen and frame, and so again improve rigidity.

Turning to US 6,672,460 to Baltzer, it is submitted that the person of ordinary skill in the art would not arrive at the present invention even if the teachings of Cook, Wolff and Baltzer were considered in combination. Baltzer teaches a tubular metal frame with an internal ledge to which a plurality of tubular cross supports are attached, with a metal perforated plate which supports screen cloths, being attached and secured to the frame by adhesive. A rim enclosure is said to prevent the perforated plate from moving side-to-side and the joints between the cross supports and sides are strengthened because the ends of the cross supports rest on the ledges, see column 6 lines 58-60 and column 7 lines 4-9. Baltzer therefore relates to a metal frame and improvements in a metal frame, and as the examiner will appreciate, metal frames and plastics frames are made using very different methods of construction.

While the general concept set out in Baltzer might be applied to Cook and Wolff by a person of ordinary skill in the art, there would be a technical prejudice against combining all elements of the art as if one has a plastic manufacturing facility, it is not generally set up to undertake welding of metal box sections and the like, so one of ordinary skill in the art would

look to modify Cook using Wolff and perhaps Baltzer, but without major changes to their manufacturing process. If a person of ordinary skill in the art looked to modify Cook on the basis of Wolff and was also aware of Baltzer, he would know that Wolff had a plastic frame reinforced by an insertable plastics pre-moulding which had recesses for receiving three solid metal bars which were merely pushed into the receiving recess, and were not joined together. He would note from Baltzer that box sections had been used instead of a solid metal beam, and that also crossed supports had been used. This might leave him to replace the solid bars in Wolff with lengths of metal box section. He might also take note of the perforated metal plate and have this added to support the screen cloths, and might change his process so as to have the outer plastics frame moulded with an upstanding rib so that a metal perforated plate bearing the screen frames could be held in place.

Thus applying the combination of these teachings to Cook might, perhaps, cause the person of ordinary skill in the art to modify Cook to have a hollow plastics frame with an insertable pre-moulded plastics frame which could receive unconnected lengths of metal box section. However, the person of ordinary skill in the art would not be led by the prior art to entirely abandon his plastic frame following the combination of teachings within Cook, Wolff and Baltzer. He would see that Wolff taught to save on cost by modifying the frame using a cheaper plastic pre-moulding and unconnected metal inserts, and then might look to Baltzer to alter the form of these metal inserts.

The examiner states that Wolff teaches that rigid embedded peripheral frames prevent shrinkage, but Wolff does not have a rigid embedded peripheral frame. Rather it has a pre-moulded plastic insert which, as is stated in Wolff, the outer plastic frame is made from a more hard-wearing resistant plastic which is difficult to injection mould, and also more expensive. By using the softer, i.e. less rigid, pre-moulded insert 9, which is more amenable to injection moulding, costs can be reduced and moulding of the insert is easier due to the better flow of the softer plastic. Using the softer plastic is then offset by having transverse rods 12 which merely have to be inserted into the openings of the insert, i.e. there is no welding taking place. Thus Wolff teaches using a cheaper less rigid embedded frame but providing additional support to offset the loss of rigidity by using unconnected transverse rods.

There is nothing in the combined teachings of Cook, Wolff and Baltzer if combined together by one of ordinary skill in the art, that would lead to the present invention. The

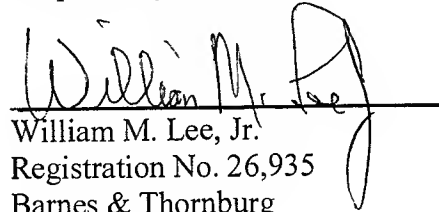
inventors have realized that merely reinforcing a plastic frame with unconnected rods is not sufficient and they have created a hybrid combination of a plastic and metal frame to address the whipping problems they have encountered, the metal frame allowing the orthogonal spaced apart wires to be secured, such as by welding, to the box-section members which greatly improves rigidity of the frame. This avoids the problems of whipping encountered with a plastic frame.

It is therefore submitted that the application distinguishes from the prior art and is allowable thereover. The Examiner's further and favorable reconsideration in that regard is urged.

As this response is being filed during the fourth month following the Examiner's Office Action, an appropriate petition for extension of time is also submitted herewith.

February 18, 2010

Respectfully submitted,

A handwritten signature in black ink, appearing to read "William M. Lee, Jr.", is written over a horizontal line. The signature is stylized with a large, looped "L" and a prominent "Jr." at the end.

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